



THE IMPORTANCE OF REGULARLY ORGANIZING TRAINING FOR THE CURRENT MEDICAL EQUIPMENT MANAGEMENT TO ENSURE THAT MEDICAL AND TECHNICAL EMPLOYEES CAN CONSCIOUSLY CARRY OUT THE MAINTENANCE OF MEDICAL EQUIPMENT

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Abstract:

In the past decades in Uzbekistan international financial institutions are providing direct support for the reform of the country's medicine, particularly for the creation of new medical facilities and the provision of state-of-the-art medical equipment and high-tech facilities. This makes it possible to increase the coverage of qualified medical services provided to the population. In particular, in 2023 advanced medical equipment worth 150 million US dollars was planned to be procured and delivered to medical establishments. Of the allocated funds, 124.5 million US dollars are foreign soft loans, and 25.5 million US dollars are foreign direct investments. The Government also plans to strengthen cooperation with a number of countries and international organizations, such as KfW, KOICA, JICA, USAID, to attract \$100 million in grant funds (www.ssv.uz).

Keywords: Experience shows, procurement process, regulatory standards, safety protocols, patient satisfaction

Properly functioning medical devices are essential for a successful health care system.¹ Effective and efficient technology is a critical element in the provision of adequate healthcare services to the population. This applies to diagnostic as well as therapeutic actions. The major financial investment done in high tech medical equipment to keep pace with population demands and expectations, places a heavy challenge on the MoH and its health professionals. Operating and maintaining such costly assets requires specific knowledge by users and service personnel in addition to the need for considerable financial budgets for the supply of consumables, work materials and services². As such, investment in capacity building measures is critical to ensure the advantage of sophisticated medical equipment is available to the public at all times.

Despite the major investments in medical equipment in the past years, parallel action has failed to keep pace in the development of doctors and other medical health workers with the level of expertise required for its proper use. A particular challenge in the use of modern medical technology in clinical practice settings is the prevalence sometimes of a 'blame' approach, i.e., fear by users that faults on equipment can be blamed on them. Frequently staff are unaware of specific practice guidelines/SOP's pertaining to equipment use and often

do not feel they are sufficiently competent as users. This can indirectly hinder sufficient exploration and use of high-tech equipment.

Experience shows that during the equipment commissioning process, user training is often undertaken on a low-key level by manufacturers / suppliers. Consequently, guidelines on user training should include recommendations on equipment procurement processes; this means manufacturers must present their user and technical training programs to the purchaser (MoH) during the tender process - prior to purchase contracts being agreed and signed. Integration of recommendations for user training requirements at this point in the procurement process will ensure that systems are in place to promote an improved user competence in the operation of the specific equipment devices when received in the designated medical facility.

To ensure continuous professional education (CPE) activities meet MoH CPE policy requirements, hospitals need to establish and define within their guidelines which staff should attend specific trainings; this will ensure the presence of the appropriate users at trainings, particularly when new equipment is being received and commissioned.

¹ https://www.who.int/healthsystems/WHA60_29.pdf?ua=1

² https://www.who.int/medical_devices/management_ue/3_4.pdf?ua=1



These activities will be integrated into the designated curricula under review as a continuous process (training on the job), focusing on the importance of equipment life-cycle management. This holistic approach promotes sensitization at decision making level and ensures that particular attention is given to the commissioning of costly equipment in addition to ensuring that due consideration is given to include that user training can be repeated at designated intervals during the warranty period.

The importance of regularly organizing training for current medical equipment management highlights the critical role that continuous education and skill development play in ensuring that medical and technical staff are equipped to perform maintenance tasks effectively. This review synthesizes findings from academic research, industry guidelines, and best practices to underscore how training impacts the reliability, safety, and efficiency of medical equipment use in healthcare settings.

THE NECESSITY OF TRAINING IN MEDICAL EQUIPMENT MANAGEMENT

Training programs are essential for ensuring that medical and technical staff possess the necessary competencies to operate and maintain sophisticated medical equipment. Regular training updates staff on the latest technological advancements and maintenance techniques, fostering a deeper understanding of the equipment they manage. This not only boosts their confidence but also enhances their ability to diagnose and resolve issues promptly, reducing equipment downtime and improving patient care.

Regular training ensures compliance with regulatory standards and safety protocols. The dynamic nature of healthcare regulations requires ongoing education to keep pace with changes. Training sessions that cover the operational safety and regulatory compliance of medical equipment mitigate risks of malpractice and accidents, which can have dire consequences for patient safety and institutional credibility.

Well-trained staff can significantly reduce the costs associated with medical equipment management. By understanding how to operate equipment optimally and perform routine maintenance, the need for costly repairs and replacements can decrease. Additionally, efficient use of medical equipment extends its lifespan, offering better returns on investment.

KEY FINDINGS

Regular training of medical staff on equipment operation and maintenance leads to a marked decrease in unplanned downtime. A well-maintained piece of

equipment is less likely to fail unexpectedly, ensuring that medical services are not interrupted and that patient care remains uninterrupted.

Training is directly linked to the quality of patient care. Proficient use of medical equipment enables healthcare providers to perform their duties more effectively, leading to improved diagnostic accuracy, treatment outcomes, and patient satisfaction.

Ongoing training programs facilitate smoother adoption of new technologies. Staff who are regularly trained adapt more quickly to innovations in medical equipment, ensuring that healthcare facilities remain at the forefront of medical technology.

RECOMMENDATIONS FOR EFFECTIVE TRAINING PROGRAMS

1. Blended Learning Approaches: Combining hands-on training with theoretical learning enhances comprehension and retention. Simulations, online modules, and in-person workshops can cater to different learning styles and needs.
2. Customized Training Content: Training programs should be tailored to the specific types of equipment used in a facility and the roles of the staff members. Customization increases relevance and applicability, ensuring that staff can directly apply what they learn.
3. Continuous Skill Assessment: Regular assessment of staff skills and knowledge can help identify gaps and areas for improvement, ensuring that training programs evolve to meet changing needs.
4. Industry and Manufacturer Partnerships: Collaborating with equipment manufacturers and industry experts can provide access to specialized knowledge and resources, enhancing the quality of training programs.

CONCLUSION

The literature consistently emphasizes the importance of regular training for medical and technical staff in the management of medical equipment.

Such training is pivotal to maintaining equipment reliability, ensuring patient safety, achieving regulatory compliance, and optimizing the cost-efficiency of healthcare services. As medical technology continues to evolve, the need for ongoing education and skill development in medical equipment management becomes ever more critical. Implementing comprehensive, tailored, and continuous training programs is essential for healthcare facilities aiming to provide high-quality care.

Each of these resources delves into different aspects of medical equipment life cycle management, from



evidence-based maintenance strategies and reliability assessment to frameworks for improving healthcare policy and sustainability.

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